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APPLICATION NO. FILING DATE		FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/617,975	07/12/2003	David R. Payne	82380-00661	4897	
28839	7590 07/02/2004		EXAMINER		
MCKINNEY & STRINGER, P.C.			ADDIE, RAYMOND W		
101 N. ROBINSON OKLAHOMA CITY, OK 73102			ART UNIT	PAPER NUMBER	
	,		3671		

DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

		A martin ati	No	Applicant(s)				
Office Action Summary		Applicati						
		10/617,9		PAYNE ET AL. Art Unit				
	Cinco Action Cuiminary	Examine						
	The MAILING DATE of this communication	Raymond		3671	dross			
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply								
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).								
Status								
1)⊠ F	1) Responsive to communication(s) filed on 27 April 2004.							
,—	This action is FINAL . 2b) ⊠ This action is non-final.							
,								
•	closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.							
Disposition of Claims								
-		on						
	4)⊠ Claim(s) <u>4-11</u> is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration.							
	5) Claim(s) is/are allowed.							
,	s) Claim(s) is/are rejected.							
-	Claim(s) is/are objected to.		-					
•	8) Claim(s) are subject to restriction and/or election requirement.							
Application Papers								
	·	:						
9) The specification is objected to by the Examiner.								
10)⊠ The drawing(s) filed on <u>12 July 2003</u> is/are: a)⊠ accepted or b)□ objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).								
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.05(a).								
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.								
Priority under 35 U.S.C. § 119								
12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of:								
1. ☐ Certified copies of the priority documents have been received.								
Certified copies of the priority documents have been received in Application No								
3. Copies of the certified copies of the priority documents have been received in this National Stage								
application from the International Bureau (PCT Rule 17.2(a)).								
* See the attached detailed Office action for a list of the certified copies not received.								
Attachment(s	s)		·					
	of References Cited (PTO-892)		4) Interview Summary					
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) Paper No(s)/Mail Date								
	ation Disclosure Statement(s) (PTO-1449 or PTO/SB/ No(s)/Mail Date <u>4/27/2004</u> .	08)	5) Notice of Informal P 6) Other:	ателі Арріісації (РТ	J-132j			
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DETAILED ACTION

Claim Rejections - 35 USC § 103

- 1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hesse et al. # 5,833,015 in view of Alft # 6,308,787 B1.

Hesse et al., discloses a method for drilling and backreaming a horizontal bore hole, the method comprising:

- Automatically rotating and pulling a drill string (3), having a backreamer (5) through the horizontal borehole.
- Automatically reducing a rate of pullback if a rotation pressure on the drill string is greater than a predetermined limit.
- Automatically reducing the rate of pullback of a rotation speed of the drill string is less than a predetermined limit.
- Increasing the rate of pullback if the rotation pressure is less than the predetermined limit, increasing the rotation speed of the drill string is greater than a predetermined limit, and the product tension at the backreamer (24) is less than a predetermined limit.

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Attaching a utility line(8) to the backreamer, after the boring tool (26) has exited the earth at location (24).

See Hesse et al. Col. 3, In. 50-col. 5, In. 23.

What Hesse et al. does not disclose is automatically reducing the length of the drill string.

However, Alft teaches a method of operating a horizontal boring machine having an automated drill string (22), which can be lengthened or shortened automatically or manually. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the method of forming a bore hole, of Hesse et al., with the method of automatically lengthening or shortening the drill string when the drill string needs to be lengthened or shortened, as taught by Alft et al., in order to maximize boring efficiency. See Alft col. 12, lns 5-20.

In regards to claim 6, Hesse et al. discloses it is desirable to pull a utility line through a borehole, by attaching the utility line (8) to a drill head (5), and to transmit operational data from the bore head to the drilling machine to maximize boring efficiency. What Hesse et al. does not disclose is recording the actual location of the utility line as the utility line is automatically pulled through the borehole via a transmission line disposed within the drill string.

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However, Alft discloses it is known to track the position of a drill head (24) in real time, using a sonde-type transmitter and remote control unit that uses a traditional methodology for locating the drill head. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the method of backreaming a borehole of Hesse et al. with the method of tracking the drill head, as taught by Alft, in order to continuously determine and record the location of the utility line, connected to the drill head. See col. 12, Ins.10-41, col. 16, Ins. 16-29.

In regards to Claims 8-11 although neither Hesse et al., nor Alft explicitly recite reducing the rate of pullback of the drill string by a certain percentage; both Hesse et al., and Alft does disclose that the rate of pull-back can be reduced or terminated based upon whether the rotation speed, rotation pressure(torque) of the drill string, or the product tension (lubricating mud pressure) is above or below a pre-determined level. See col. 44.

Conclusion

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kuckes et al. # 5,725,059 discloses a method for producing parallel boreholes.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond W. Addie whose telephone number is 703 305-0135. The examiner can normally be reached on 8-2, 6-8.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will can be reached on 703 308-3870. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Raymond Addie Patent Examiner Group 3600

6/26/04